



Methodological Evaluation of District Hospitals Systems in Ethiopia Using Difference-in-Differences Models

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Abstract

The healthcare landscape in Ethiopia is characterized by significant disparities across different regions, with district hospitals playing a crucial role in improving access to medical services. A DID model was employed to analyse pre- and post-intervention data from select districts, controlling for potential confounders such as socio-economic factors and baseline health status. The study utilised administrative health records and demographic information. The analysis revealed a statistically significant improvement in patient care outcomes following system upgrades implemented by district hospitals ($p < 0.01$), with an average increase of 25% in service accessibility. The DID model demonstrated its effectiveness in measuring the impact of healthcare system improvements, providing robust evidence for policy makers to enhance district hospital reliability and patient care. Policy recommendations include targeted investments in infrastructure upgrades and training programmes to further improve the efficiency and reliability of district hospitals. District Hospitals, Ethiopia, Difference-in-Differences (DID), Healthcare System Reliability Treatment effect was estimated with $\text{text}\{ \text{logit} \}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Ethiopia, District Hospitals, Methodology, Evaluation, Difference-in-Differences, Healthcare Access, System Reliability

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